

Amendments to the Specification:

Please amend the paragraph beginning page 5, line 17 to read as follows:

In the above oscillation mechanism, when the ~~motor~~ motor 2 is driven, the driving pulley 5 provided with the output axis 3 rotates. The rotation of the driving pulley 5 is transmitted to the driven pulley 7 via the transmission belt 8, thus the driven pulley 7 rotates. The oscillation axis 14 rotates in synchronization with the rotation of the driven pulley 7, subsequently the ultrasonic element unit 13 rotates in synchronization with the rotation of the oscillation axis 14. By reversing the rotating direction of the motor at a predetermined time interval, the rotating direction of the ultrasonic element is reversed as well, thus realizing the oscillation of the ultrasonic element.

Please amend the paragraph beginning on page 6, line 12 to read as follows:

FIG. 2 is a schematic view showing an example of the configuration of the detector 1. The detector 1 is structured as an optical incremental-type rotary encoder. In the detector 1, a slit plate 23 is attached to the output axis 3 of the motor so that the slit plate can rotate together. In the slit plate 23, a first slit 24 used for detecting the position and the oscillation origin of the ultrasonic element unit and second slits 20 used for detecting the oscillation angle are formed concentrically about the rotation axis of the slit plate. Light from a light source 21 is directed to the second slit 20, and the amount of light L2 passed through the second slits 20 is detected by a second photoreceptor 22. The light signal detected by the second photoreceptor 22 is converted into an electric signal and subsequently output as an angle signal. The light from the light source 21 is also directed to the first slit 24, and the amount of light L1 passed through the first slit 24 is

detected by a first photoreceptor 25. And the light signal detected by the ~~second photoreceptor 22~~ first photoreceptor 25 is converted into an electric signal and subsequently output as an origin-return signal.

Please amend the paragraph beginning on page 8, line 23 to read as follows:

Detection of the oscillation angle of the ultrasonic element unit is carried out by detecting the light passing through the second slits ~~24~~ 20. When the slit plate 23 rotates, the signal (the angle signal) obtained by the second slits ~~24~~ 20 becomes, for example, a binary pulse signal as illustrated as S1 in FIG. 3. The each logic level of the angle signal depends on the detection of the light passed through the second slits. The number of pulses corresponds to the number of the second slits passed in front of the second photoreceptor within a predetermined time period. Therefore, the oscillation angle can be obtained by counting the number of these pulses.

Please amend the paragraph beginning on page 10, line 26 to read as follows:

An origin detector 43 is for detecting the position and the oscillation origin of the ultrasonic element unit. This is structured as an optical rotary encoder, and attached to an output axis of a motor 2. The origin detector 43 can have the same structure as the detector illustrated in FIG. 2, except that the second slits 20 and the second photoreceptor 22 are omitted. The detection operation is substantially the same as that of the ~~second first~~ slits in Embodiment 1.